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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,900	12/22/2005	Jorge Hernan Jimenez	GTRC135	3089
6980 7590 02/24/2010 TROUTMAN SANDERS LLP 5200 BANK OF AMERICA PLAZA 600 PEACHTREE STREET, N.E. SUITE 5200 ATLANTA, GA 30308-2216				
EXAMINER MATTHEWS, WILLIAM H				
ART UNIT 3774		PAPER NUMBER		
NOTIFICATION DATE 02/24/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/561,900

**Applicant(s)**

JIMENEZ ET AL.

**Examiner**

William H. Matthews (Howie)

**Art Unit**

3774

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 39-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 39-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/88)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 9/06, 2/09, 3/09, 6/09, 9/09, 11/09

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I (claims 39-50) in the reply filed on 11-25-09 is acknowledged.

The subject matter of claims 51-60, if presented in the future, would be withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11-25-09.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 39-45, 49-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 39 recites "proper" which is a relative term lacking sufficient definition so as to ascertain the scope of the claim.

Claim 39 recites "the prosthesis implanted" which is unclear if the device is positively recited in connection with the human body, and therefore raising issues under 35 U.S.C. 101 with respect to non-statutory subject matter. Examiner suggests amending "implante" to ---implantable---.

Claims 44, 45, and 50 recite "normal" which is a relative term lacking sufficient definition so as to ascertain the scope of the claim.

Claim 49 recites "appropriate" which is a relative term lacking sufficient definition so as to ascertain the scope of the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 39 and 42-45** are rejected under 35 U.S.C. 102(e) as being anticipated by Quijano et al. US PUB 20030050693.

Quijano disclose in figures 1-7 an annuloplasty device comprising a chain of a plurality of links configured for implantation without necessity of suture stabilizers or placement bands and configured to provide a constant three dimensional perimeter.

Note the functional aspects of the claimed device are recited upon an intended use situation, whereby the resulting effects are dependent upon the manner in which the device is implanted. The Quijano device is fully capable of use as claimed to

provide normal chordal force and proper shapes to the annulus, as best understood, as well as providing a substantially fixed perimeter. See MPEP 2114.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 40-41 and 46-50** are rejected under 35 U.S.C. 103(a) as being unpatentable over Quijano et al. US PUB 20030050693.

Quijano meet the limitations of claims 40-41 and 46-50 as described above in connection with claims 39,42-45, but Quijano lacks the explicit disclosure of providing a saddle shaped structure having a saddle height to commissural diameter ratio of about 25% or 0-33%. However, Quijano does teach the device may comprise a variety of shapes (para 0042) with examples given in USPN 5201880 (Wright, incorporated by reference). Wright '880 teach saddle shapes with approximate ratios as claimed (figure 4) and further teach the natural shape of the annulus is saddle shaped (column 3, lines 36-51. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the chain structure of Quijano to include a saddle shape in the ratio as claimed as Quijano teaches the device may assume various shapes including saddle shapes and it would be readily apparent to shape the device in the natural shape of the mitral valve annulus.

**Claims 39-50** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Carpentier et al. USPN 4917698 in view of Wright USPN 5201880.

Carpentier disclose in Figures 1-2 an annuloplasty band prosthesis comprising a chain of a plurality of links (24,26). The prosthesis maintains an approximate perimeter.

With respect to claims claims 40-41 and 46-50, connections 36,38 appear to inherently allow the device to assume a saddle-shape geometry capable of deformation three-dimensionally while maintaining an approximately constant perimeter. Alternatively, if not inherent, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the prosthesis of Carpentier to assume, or allow for a variety of saddle shape ratios as taught in Wright '880 at column 3 lines 36-51 in order to accommodate the natural shape of a variety of mitral valve annuluses.

Note the functional aspects of the claimed device are recited upon an intended use situation, whereby the resulting effects are dependent upon the manner in which the device is implanted. The Carpentier device appears fully capable of use as claimed to provide normal chordal force and proper shapes to the annulus, as best understood, as well as providing a substantially fixed perimeter. The ratio of height to diameter would be fully capable upon selection of a flexible connection at 36,38. See MPEP 2114.

**Claims 39-50** are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Marquez USPN 2003/0040793 in view of Wright USPN 5201880.

Marquez disclose in Figures 4a-4b an annuloplasty band prosthesis comprising a chain 60 of a plurality of connected links 70. The prosthesis is described to maintain a desired perimeter due to the contracting force of inner member 72.

With respect to claims 40,42,43, and 46, Marquez teach the benefits of rigid rings providing a fixed diameter (background). The device of Figures 4a-4b is described to provide flexibility to assist implantation of the ring to dilated valves, and a contractile force to provide a pre-determined diameter. The contractile force may be provided from a variety of elastic materials. If not inherent that the implanted device would provide an essentially constant diameter (perimeter), it would have been obvious to one of ordinary skill in the art at the time of the invention to select to sufficiently contracting materials that overcome the expanding force of the valve during use in order to achieve the predetermined, fixed diameter taught by Marquez.

With respect to claims 40-41 and 46-50, Marquez is silent as to providing a saddle-shape geometry capable of deformation three-dimensionally while maintaining an approximately constant perimeter, and further wherein the saddle shape comprising a ratio of height to diameter of approximately 0-33% or 25%. Wright teaches at column 3 lines 36-51 that mitral valves have a saddle shaped annulus and further teach rings having saddle shape features to conform to the annulus. Note Marquez does teach a desire to provide a ring conforming to the shape of the mitral valve annulus (para 29). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the prosthesis of Marquez to assume a saddle shape as taught in Wright '880 in order to properly conform to the natural shape of a mitral valve annulus. Furthermore,

providing the saddle shape in the ratios as claimed would be readily apparent to one of ordinary skill in the art in to order to accommodate a wide variation of mitral valve annulus shapes and sizes of a population of patients.

Note the functional aspects of the claimed device are recited upon an intended use situation, whereby the resulting effects are dependent upon the manner in which the device is implanted. The Marquez device appears fully capable of use as claimed to provide normal chordal force and proper shapes to the annulus, as best understood, as well as providing a substantially fixed perimeter. See MPEP 2114.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Matthews (Howie) whose telephone number is 571-272-4753. The examiner can normally be reached on Monday-Friday 10-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Isabella can be reached on 571-272-4749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William H. Matthews/  
Primary Examiner  
Art Unit 3774